UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
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100251

SUBJECT: Review of Draft FS for SCD DATE: 3-18-93

FROM: Kate Lose
EPA

TO: Anne Hiller
DNREC

I have reviewed the above document and have some overall general concerns which I have stated in a cover letter to you, dated March 18, 1993. In addition, I have comments both general and specific to the document as delineated below.

GENERAL

1. Terms such as "readily accessible" and "highly contaminated" must be clearly defined whenever they are used.

2. Alternative 2 is inappropriately labeled Containment. This alternative, as delineated in Section 4 and 5 of the report, allows for contamination to continue to be released from the site and therfore does not satisfy the definition of containment.

3. All of the alternatives, with the exception of the No Action Alternative, must satisfy the following criteria:

   a) demonstrate overall protection of human health and the environment;

   b) compliance with ARARs.

4. Each of the alternatives which is carried into the "detailed analysis" must delineate the amount of waste to be treated, response levels, and time frames for remediation (intermediate as well as final).

5. To assist in the comparative anslysis of the alternatives presented in the FS, a table similar to the example in the guidance document that provides a summary of the various response actions for each of the alternatives must be provided. See "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA, OSWER Directive 9355.3-01, October 1988, page 4-21. The mediums under evaluation should include surface soil, sediment,

subsurface soil, ground water, and surface water and evaluate human as well as ecological risks.

6. Insitu treatment, such as soil vapor extraction and soil flushing has been the selected remedy at numerous hazardous waste sites because they are successful in removint the contamination and therefore not only are offer a permanent solution , but also prevent the release of additional contamination from the site. Remediation os such "hot spots" improve the overall efficiency of long term pump and treat remediation efforts. The FS must address insitu treatment, other that biological, for subsurface soils.

7. Each of the alternatives must address ramifications to the ecological systems.

8. Each of the alternatives must provide more detail on the monitoring systems associatied with the remedial efforts.

9. Each of the alternatives evaluated in detail must address subsurface soils, Catch Basin #1, and DNAPL(s).

10. The FS must include an analysis of the contaminants at the site to address the chemical reactions and breakdown products during degradation under anerobic and aerobic conditions.

EXECUTIVE SUMMARY

11. The 4th paragraph on page ES-4 must be ammended to include subsurface contamination along the pipeline. In addition a statement concerning the impact of subsurface soils on ground water contamination must be provided.

12. The statement on page ES-4 concerning "minimal impact of ...to surface water quality..." must be eliminated through out the report since it can not be substantiated.

13. Alternative 2 - Containment as discussed on page ES-5 is misleading since the alternative does not contain the contamination.

SECTION 1

14. Site operational history must include a description of the current and potential markets for the products produced at Standard Chlorine of Delaware.

15. The third paragraph of section 1.3.2 on page 1-5 must be accompanied with a figure for clarification.

16. The second paragraph on page 1-10 states that annual inspections of the new CB1 are conducted. This paragraph should be expanded to identify the results of these

inspections. Are the underground lines discharging to CB1 tested and inspected?

17. Section 1.5 must include a discussion of the findings of the Effluent Pipe Investigation.

18. The first paragraph on Page 1-23 should address subsurface contamination in the vicinity of the effluent underground pipe. It should also note that although there may not be direct receptors, it is a source of ground water contamination.

SECTION 2

19. The list of ARARs should include the Coastal Zone Management Act for Location.

SECTION 3

20. Pages 3-13, 14, and 23 discusses the use of extraction & recovery wells to remove DNAPLs. The RI did not delineate the location of DNAPLs. The quarterly reports for the DRBC do identify several wells where free product is found. A discussion on DNAPLs and findings from other investigations must be provided in Sections 1.4 and 1.5 of the FS Report.

21. Page 3-15 states that the practical depth limitation of a slurry wall is 25 feet. This is incorrect. Slurry walls can be extended up to 150 feet, depending on site conditions.

22. Sufficient rationale for eliminating solvent rinsing/soil washing was not provided on page 3-39, 40.

23. EPA has no reason to substantiate that the geologic conditions are not suited for injection and extraction. Therefore, soil flushing must be retained for further consideration.

24. Revise Table 3-3 for depth of slurry walls.

25. As stated previously, soil washing, soil flushing and insitu steam/hot air injection with vapor extraction are viable alternatives and must be evaluated more thoroughly (page 3-58, 59).

26. The FS must include a figure(s) to accompany Table 3-5. Rationale for depth of area must be provided. Subsurface contaminated soils must be included in the volume calulations. It is recommended that a similar table be generated for each of the alternatives discussed in Section 4, to include volume of treatment for ground water, surface soils, subsurface soils, sediments. Area of capping should

also be provided where appropriate.

SECTION 4

27. In the development and screening of Remedial Alternatives, each of the alternatives (with the exception of No Action) must satisfy minimum criteria as described below:

    a) must provide adequate protection of human health and the environment;

    b) must meet the requirements of all federal and state ARARS.

    In addition, each of the alternatives must provide information on the amount of waste/media to be treated, duration of clean-up, timeframes for treatment, achievable intermediate and final clean-up levels.

28. Each alternative must provide a discussion and address remediation of subsurface soils, CB1, and DNAPL(s).

29. As stated previously, Section 1.4 and 1.5 must provide more information on the identification of DNAPL to substantiate the appropriateness of the proposed locations for the recovery wells in Alternative 4.

SECTION 5

30. As stated previously, Alternative 2 must comply with ARARs.

31. Page 5-7 is incorrect when it states that this remedial approach will provide on-site containment. This alternative does not adequately provide for on-site containment. This alternative would more appropriately be labeled "Limited Action" in that it only provides for limited action above and beyond the existing pump and treat and monitoring system.

32. As stated previously, all alternatives must discuss remediation of subsurface soils, DNAPLs and CB1. Based on historical data, the Catch Basin appears to be a continuing source od contamination and each of the alternatives must address means of remediating/containing the contamination.

33. This section must include calculations of cubic yards, gallons, etc. of soil to be treated, capped, contained. We recommend use of a table for each of the alternatives.

34. Page 5-13 states that "...final capping and closure will address the RCRA design criteria for surface impoundment

closure". This is incorrect (see 40 CFR Ch.1 Section 264.228).

35. On page 5-20, a slurry wall should be included as an alternative for containing groundwater. A contingency for treatment of off-gases must be provided in the event that production processes are curtailed and the discharge and no longer be burned in the boilers. In addition, documentation that the boilers can effectively destroy/remove the volatile and semi-volatile constituents must be provided.

36. Page 5-23 Details on alternative technology (other that air stripping) for treating wastewater, which in turn will treat contaminated ground water, must be provided.

36. Page 5-23 - Details on volumeof soil to be excavated and stabilized must be provided. Table 3-5 suggests excavation to a depth of 3 feet, whereas sample location #SS-29 showed contamination to a depth of five feet.

37. Alternative 3 does not adequately address remediation of the sediments in the unnamed tributary. Figure 5-6 identifies areas along the sides of the unnamed tributary to be excavated. Analytical results from the RI reveal that most sampling locations downgradient of the soil dike are contaminated. This alternative must provide an option for excavation and treatment of sediments above response levels.

38. The new silt fence discussed on page 5-32 will only minimize migration and should only be considered as an interim measure as oppossed to a permanent solution.

39. Rational for the extent of the asphalt cap around the catch basin must be provided.

40. Justification and rationale for placement of manholes 300 feet apart for the interceptor trench must be provided.

41. The technology for treatment of contaminated ground water (page 5-39) must be delineated.

42. Provide more detail on the LTTD, size of unit, flow input, management of contaminated media, etc.

43. The results of the Bioremediation Treatability Study must be submitted with the revised FS to demonstrate its application and limitation.

44. Details on ultimate disposition of soil piles after Insitu bioremediation must be provided.